GAYDAR

AI Can Tell If You're Gay from a Photo, and It's Terrifying

Brief

Current artificial intelligence is highly feted. Yet, its gifts come down to a superhuman capacity to spot designs in expansive volumes of information. Facebook has utilized this capacity to deliver maps of poor districts in extraordinary detail, with an AI framework that has realized what human settlements look like from satellite pictures. Medicinal analysts have prepared AI in cell phones to recognize harmful injuries; a Google framework can make exact speculations about the year a photo was taken, just in light of the fact that it has seen more photographs than a human would ever examine, and has spotted examples that no human could.

AI's power to choose designs is presently swinging to more close issues. Research at Stanford University by Michal Kosinski and Yilun Wang has demonstrated that machine vision can infer sexual orientation by breaking down individuals' faces. The analysts propose the product does this by getting on inconspicuous contrasts in facial structure. With the correct informational indexes, Dr Kosinski says, comparable AI frameworks may be prepared to spot other private attributes, for example, IQ or political perspectives. Because people can't see the signs in faces does not imply that machines can't do as such.

The researchers' program, details of which are soon to be distributed in the Journal of Personality and Social Psychology, depended on 130,741 pictures of 36,630 men and 170,360 pictures of 38,593 ladies downloaded from a mainstream American dating site, which makes its profiles open. Fundamental facial-discovery innovation was utilized to choose all pictures which demonstrated a solitary face of adequate size and lucidity to subject to investigation. This left 35,326 pictures of 14,776 individuals, with gay and straight, male and female, all spoke to equitably.

The pictures were then feed into an alternate bit of programming called VGG-Face, which releases a long series of numbers to speak to every individual; their "faceprint". The subsequent stage was to utilize a simple predictive model, known as logistic regression, to discover connections between's the highlights of those faceprints and their owners' sexuality (as announced on the dating site). At the point when the subsequent model was keep running on information which it had not seen some time recently, it far outflanked people at recognizing gay and straight faces.

At the point when indicated one photograph each of a gay and straight man, both picked indiscriminately, the model recognized them effectively 81% of the time. At the point when indicated five photographs of each man, it attributed sexuality accurately 91% of the time. The model performed more terrible with ladies, distinguishing gay and straight one from the other with 71% accuracy at one photograph, and 83% after five. In the two cases, the level of execution far surpasses human capacity to make this refinement. Utilizing similar pictures, individuals could tell gay from straight 61% of the ideal opportunity for men, and 54% of the ideal opportunity for ladies. This aligns with

research which suggests humans can determine sexuality from faces at only just better than chance.

Dr Kosinski and Mr Wang offer a possible explanation for their model's performance. As fetuses develop in the womb, they are exposed to various levels of hormones, in particular testosterone. These are known to play a role in developing facial structures, and may similarly be involved in determining sexuality.

The study has limitations. Firstly, images from a dating site are likely to be particularly revealing of sexual orientation. The 91% accuracy rate only applies when one of the two men whose images are shown is known to be gay. Outside the lab the accuracy rate would be much lower. To demonstrate this weakness, the researchers selected 1,000 men at random with at least five photographs, but in a ratio of gay to straight that more accurately reflects the real world; approximately seven in every 100. When asked to select the 100 males most likely to be gay, only 47 of those chosen by the system actually were, meaning that the system ranked some straight men as more likely to be gay than men who actually are.

What I Think

As you might have guessed, it's not as straightforward as that. (And to be clear, based on this work alone, AI *can't* tell whether someone is gay or straight from a photo.) But the research captures common fears about artificial intelligence: that it will open up new avenues for surveillance and control, and could be particularly harmful for marginalized people.

With statements like these, some worry we're reviving an old belief with a bad history: that you can intuit character from appearance. This pseudoscience, physiognomy, was fuel for the scientific racism of the 19th and 20th centuries, and gave moral cover to some of humanity's worst impulses: to demonize, condemn, and exterminate fellow humans.

But is it possible that pseudoscience is sneaking back into the world, disguised in new garb thanks to AI? Some people say machines are simply able to read more about us than we can ourselves, but what if we're training them to carry out our prejudices, and, in doing so, giving new life to old ideas we rightly dismissed? How are we going to know the difference?

As Philip Cohen, a sociologist at the University of Maryland who wrote a blog post critiquing the paper, told *The Verge*: "People are scared of a situation where you have a private life and your sexual orientation isn't known, and you go to an airport or a sporting event and a computer scans the crowd and identifies whether you're gay or straight. But there's just not much evidence this technology can do that."

Meanwhile, it prompts a wide range of issues. A typical one is that sexist and supremacist inclinations are caught from people in the preparation information and imitated by the AI.

Experts say this is a misleading claim that isn't supported by the latest science. There may be a common cause for face shape and sexual orientation — the most probable cause is the balance of hormones in the womb — but that doesn't mean face shape reliably *predicts* sexual orientation, says Qazi Rahman, an academic at King's College London who studies the biology of sexual orientation.

Decreasing the topic of sexual orientation to a single, quantifiable factor in the body has a long and frequently inglorious history. As Matton writes in his blog post, approaches have ranged from "19th century measurements of lesbians' clitorises and homosexual men's hips, to late 20th century claims to have discovered 'gay genes,' 'gay brains,' 'gay ring fingers,' 'lesbian ears,' and 'gay scalp hair.'" The impact of this work is mixed, but at its worst it's a tool of oppression: it gives people who want to dehumanize and persecute sexual minorities a "scientific" pretext.

Final Comments

But to return to the questions implied by those alarming headlines about Kosinski and Wang's paper: is AI going to be used to persecute sexual minorities?

This system? No. A different one? Maybe.

Citation

1. https://www.economist.com/news/science-and-technology/21728614-machines-read-faces-are-coming-advances-ai-are-used-spot-signs
2. https://www.theverge.com/2017/9/21/16332760/ai-sexuality-gaydar-photo-physiognomy
3. https://familyinequality.wordpress.com/2017/09/11/on-artificially-intelligent-gaydar/
4. https://scatter.wordpress.com/2017/09/10/guest-post-artificial-intelligence-discovers-gayface-sigh/